

2 27. (New) The protein of claim 26 which comprises amino acid sequence (a).

3 28. (New) The protein of claim 26 which comprises amino acid sequence (b).

29. (New) The protein of claim 26 which *B* comprises amino acid sequence (c).

30. (New) The protein of claim 26 which *B* comprises amino acid sequence (d).

4 31. (New) The protein of claim 26 wherein the protein also comprises a heterologous amino acid sequence.

5 32. (New) The protein of claim 31 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

CM
A 33. (New) The protein of claim 26 wherein said protein is labeled.

7 34. (New) The protein of claim 33 wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

sub
D1 35. (New) The protein of claim 26 wherein the protein is cytotoxic to Neutrokinin- α receptor bearing cells.

9 36. (New) The protein of claim 26 bound to a solid support.

10 37. (New) A composition comprising the protein of claim 26 and a carrier.

11 38. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim 26 by a cell; and
- (b) recovering the protein.

Ent-B2

39. (New) An isolated protein comprising a first amino acid sequence that is 90% or more identical to a second amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of amino acid residues 1 to 285 of SEQ ID NO:2;
- (b) the amino acid sequence of amino acid residues 1 to 46 of SEQ ID NO:2;
- (c) the amino acid sequence of amino acid residues 47 to 72 of SEQ ID NO:2; and
- (d) the amino acid sequence of amino acid residues 73 to 285 of SEQ ID NO:2.

*Cn²
A
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13 40. (New) The protein of claim *39* wherein the second amino acid sequence is

(a).

14 41. (New) The protein of claim *39* wherein the second amino acid sequence is

(b).

42. (New) The protein of claim 39 wherein the second amino acid sequence is

(c).

43. (New) The protein of claim 39 wherein the second amino acid sequence is

(d).

15 44. (New) The protein of claim *39* wherein said first amino acid sequence is 95% or more identical to said second amino acid sequence.

16 45. (New) The protein of claim *44* wherein the second amino acid sequence is the amino acid sequence of amino acid residues 1 to 285 of SEQ ID NO:2.

46. (New) The protein of claim *44* wherein the second amino acid sequence is the amino acid sequence of amino acid residues 1 to 46 of SEQ ID NO:2.

47. (New) The protein of claim 44 wherein the second amino acid sequence is the amino acid sequence of amino acid residues 47 to 72 of SEQ ID NO:2.

17 48. (New) The protein of claim 44 wherein the second amino acid sequence is the amino acid sequence of amino acid residues 73 to 285 of SEQ ID NO:2.

18 49. (New) The protein of claim 39 wherein the protein also comprises a heterologous amino acid sequence.

19 50. (New) The protein of claim 49 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

cn't
18 51. (New) The protein of claim 39 wherein said protein is labeled.

21 52. (New) The protein of claim 51 wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

53. (New) The protein of claim 39 wherein the protein is cytotoxic to Neutrokinin- α receptor bearing cells.

23 54. (New) The protein of claim 39 bound to a solid support.

24 55. (New) A composition comprising the protein of claim 39 and a carrier.

25 56. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim 39 by a cell; and
- (b) recovering the protein.

Dkt B3

57. (New) An isolated protein comprising an amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of amino acid residues n to 285 of SEQ ID NO:2, where n is an integer in the range of 2-190;
- (b) the amino acid sequence of amino acid residues 1 to m of SEQ ID NO:2, where m is an integer in the range of 274 to 284; and
- (c) the amino acid sequence of amino acid residues n to m of SEQ ID NO:2, where n is an integer in the range of 2-190 and m is an integer in the range of 274-284;

wherein said protein specifically binds to an antibody that specifically binds the protein of SEQ ID NO:2.

*CK
Q18*

27 58. (New) The protein of claim 57 which comprises amino acid sequence (a).

28 59. (New) The protein of claim 57 which comprises amino acid sequence (b).

29 60. (New) The protein of claim 57 which comprises amino acid sequence (c).

30 61. (New) The protein of claim 57 which comprises the amino acid sequence of amino acid residues 71-285 of SEQ ID NO:2.

62. (New) The protein of claim 57 wherein the protein modulates leukocyte proliferation.

63. (New) The protein of claim 62 wherein the leukocyte is a lymphocyte.

64. (New) The protein of claim 57 wherein the protein stimulates leukocyte proliferation.

65. (New) The protein of claim 64 wherein the leukocyte is a lymphocyte.

66. (New) The protein of claim 57 wherein the protein modulates leukocyte differentiation.

67. (New) The protein of claim 66 wherein the leukocyte is a lymphocyte.

68. (New) The protein of claim 57 wherein the protein stimulates leukocyte differentiation.

69. (New) The protein of claim 68 wherein the leukocyte is a lymphocyte.

31 70. (New) The protein of claim 57 wherein the protein also comprises a heterologous amino acid sequence.

32 71. (New) The protein of claim 70 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

CN+
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33 72. (New) The protein of claim 57 wherein said protein is labeled.

34 73. (New) The protein of claim 72 wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

Sub D57
74. (New) The protein of claim 57 wherein the protein is cytotoxic to Neutrokinin- α receptor bearing cells.

36 75. (New) The protein of claim 57 bound to a solid support.

37 76. (New) A composition comprising the protein of claim 57 and a carrier.

38 77. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim 57 by a cell; and
- (b) recovering the protein.

Debt B4

78. (New) An isolated protein comprising a first amino acid sequence that is 95% or more identical to a second amino acid sequence selected from the group consisting of:

- (a) the amino acid sequence of amino acid residues n to 285 of SEQ ID NO:2, where n is an integer in the range of 2-190;
- (b) the amino acid sequence of amino acid residues 1 to m of SEQ ID NO:2, where m is an integer in the range of 274 to 284; and
- (c) the amino acid sequence of amino acid residues n to m of SEQ ID NO:2, where n is an integer in the range of 2-190 and m is an integer in the range of 274-284; and

wherein said protein specifically binds to an antibody that specifically binds the protein of SEQ ID NO:2.

*CMY
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40 79. (New) The protein of claim *78* wherein the second amino acid sequence is (a).

41 80. (New) The protein of claim *78* wherein the second amino acid sequence is (b).

42 81. (New) The protein of claim *78* wherein the second amino acid sequence is (c).

82. (New) The protein of claim 79 wherein the second amino acid sequence is the amino acid sequence of amino acid residues 191-~~285~~ of SEQ ID NO:2.

43 83. (New) The protein of claim *79* wherein the second amino acid sequence is the amino acid sequence of amino acid residues 168-285 of SEQ ID NO:2.

44 84. (New) The protein of claim *79* wherein the second amino acid sequence is the amino acid sequence of amino acid residues 112-285 of SEQ ID NO:2.

45 85. (New) The protein of claim *79* wherein the second amino acid sequence is the amino acid sequence of amino acid residues 81-285 of SEQ ID NO:2.

~~46~~ 86. (New) The protein of claim ~~79~~⁴⁰ wherein the second amino acid sequence is the amino acid sequence of amino acid residues 71-285 of SEQ ID NO:2.

87. (New) The protein of claim ~~78~~¹⁰ wherein the protein modulates leukocyte proliferation.

88. (New) The protein of claim ~~78~~¹⁰ wherein the leukocyte is a lymphocyte.

Subj D7 89. (New) The protein of claim 78 wherein the protein stimulates leukocyte proliferation.

90. (New) The protein of claim 89 wherein the leukocyte is a lymphocyte.

Claim A18 91. (New) The protein of claim ~~78~~¹⁰ wherein the protein modulates leukocyte differentiation.

92. (New) The protein of claim 91 wherein the leukocyte is a lymphocyte.

Subj D8 93. (New) The protein of claim ~~78~~¹⁰ wherein the protein stimulates leukocyte differentiation.

94. (New) The protein of claim ~~93~~¹⁰ wherein the leukocyte is a lymphocyte.

~~49~~ 95. (New) The protein of claim ~~78~~³⁹ wherein the protein also comprises a heterologous amino acid sequence.

~~50~~ 96. (New) The protein of claim ~~95~~⁴⁹ wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

~~51~~ 97. (New) The protein of claim ~~78~~³⁹ wherein said protein is labeled.

51
52 98. (New) The protein of claim 97 wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

Sub D9
99. (New) The protein of claim 78 wherein the protein is cytotoxic to Neutrokinin- α receptor bearing cells.

cnst
54 100. (New) The protein of claim 78 bound to a solid support.

A 18
55 101. (New) A composition comprising the protein of claim 78 and a carrier.

56 102. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim 78 by a cell; and
- (b) recovering the protein.

Sub B5
103. (New) An isolated protein comprising the amino acid sequence of amino acid residues 191-285 of SEQ ID NO:2, wherein said protein specifically binds an antibody that binds the protein of SEQ ID NO:2.

58 104. (New) The isolated protein of claim 103 which comprises the amino acid sequence of amino acid residues 168-285 of SEQ ID NO:2.

59 105. (New) The isolated protein of claim 104 which comprises the amino acid sequence of amino acid residues 112-285 of SEQ ID NO:2.

60 106. (New) The isolated protein of claim 105 which comprises the amino acid sequence of amino acid residues 81-285 of SEQ ID NO:2.

b1 107. (New) The isolated protein of claim 106 which comprises the amino acid sequence of amino acid residues 71-285 of SEQ ID NO:2.

108. (New) The protein of claim 103 wherein the protein modulates leukocyte proliferation.

109. (New) The protein of claim 108 wherein the leukocyte is a lymphocyte.

110. (New) The protein of claim 103 wherein the protein stimulates leukocyte proliferation.

111. (New) The protein of claim 110 wherein the leukocyte is a lymphocyte.

CM+
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112. (New) The protein of claim 103 wherein the protein modulates leukocyte differentiation.

113. (New) The protein of claim 112 wherein the leukocyte is a lymphocyte.

114. (New) The protein of claim 103 wherein the protein stimulates leukocyte differentiation.

115. (New) The protein of claim 114 wherein the leukocyte is a lymphocyte.

b2 116. (New) The protein of claim 103 wherein the protein also comprises a heterologous amino acid sequence.

b3 117. (New) The protein of claim 116 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

b4 118. (New) The protein of claim 103 wherein said protein is labeled.

Sub D11 65 119. (New) The protein of claim 118 wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

Sub D11 120. (New) The protein of claim 103 wherein the protein is cytotoxic to Neutrokinin- α receptor bearing cells.

a 18 67 121. (New) The protein of claim 103 bound to a solid support.

Sub D12 68 122. (New) A composition comprising the protein of claim 103 and a carrier.

Sub D12 69 123. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim 103 by a cell; and
- (b) recovering the protein.

Sub D12 70 124. (New) An isolated protein consisting of the amino acid sequence of amino acid residues 134-285 of SEQ ID NO:2.

Sub D12 125. (New) The protein of claim 124 wherein said protein specifically binds an antibody that specifically binds the protein of SEQ ID NO:2.

126. (New) The protein of claim 124 wherein the protein modulates leukocyte proliferation.

127. (New) The protein of claim 126 wherein the leukocyte is a lymphocyte.

Sub D13 128. (New) The protein of claim 124 wherein the protein stimulates leukocyte proliferation.

Sub D14

129. (New) The protein of claim 128 wherein the leukocyte is a lymphocyte.

130. (New) The protein of claim 124 wherein the protein modulates leukocyte differentiation.

131. (New) The protein of claim 130 wherein the leukocyte is a lymphocyte.

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132. (New) The protein of claim 124 wherein the protein stimulates leukocyte differentiation.

133. (New) The protein of claim 132 wherein the leukocyte is a lymphocyte.

74 134. (New) The protein of claim 124 fused to a heterologous amino acid sequence.

75 135. (New) The protein of claim 134 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

76 136. (New) The protein of claim 124 wherein said protein is labeled.

77 137. (New) The protein of claim 136 wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{mTc}}$.

Sub D15

138. (New) The protein of claim 124 wherein the protein is cytotoxic to Neutrokinin- α receptor bearing cells.

79 139. (New) The protein of claim 124 bound to a solid support.

80 140. (New) A composition comprising the protein of claim 124 and a carrier.

Sub D16 81 141. (New) A protein produced by a method comprising:
(a) expressing the protein of claim 124 by a cell; and
(b) recovering the protein.

Sub D16 82 142. (New) An isolated protein comprising the amino acid sequence of amino acid residues 134-285 of SEQ ID NO:2.

a 18 Sub D17 143. (New) The protein of claim 142 wherein said protein specifically binds an antibody that specifically binds the protein of SEQ ID NO:2.

144. (New) The protein of claim 142 wherein the protein modulates leukocyte proliferation.

145. (New) The protein of claim 144 wherein the leukocyte is a lymphocyte.

Sub D17 146. (New) The protein of claim 142 wherein the protein stimulates leukocyte proliferation.

147. (New) The protein of claim 146 wherein the leukocyte is a lymphocyte.

148. (New) The protein of claim 142 wherein the protein modulates leukocyte differentiation.

149. (New) The protein of claim 148 wherein the leukocyte is a lymphocyte.

Sub D18 150. (New) The protein of claim 142 wherein the protein stimulates leukocyte differentiation.

151. (New) The protein of claim 150 wherein the leukocyte is a lymphocyte.

Sub D17 83 152. (New) The protein of claim 142 wherein the protein also comprises a heterologous amino acid sequence.

sub 153. (New) The protein of claim 152 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

sub 154. (New) The protein of claim 152 wherein said protein is labeled.

sub 155. (New) The protein of claim 154 wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

sub 156. (New) The protein of claim 142 wherein the protein is cytotoxic to Neutrokinin- α receptor bearing cells.

sub 157. (New) The protein of claim 142 bound to a solid support.

sub 158. (New) A composition comprising the protein of claim 142 and a carrier.

sub 159. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim 142 by a cell; and
- (b) recovering the protein.

sub 160. (New) An isolated protein that is 90% or more identical to an amino acid sequence consisting of amino acid residues 134-285 of SEQ ID NO:2, wherein said protein specifically binds an antibody that specifically binds the protein of SEQ ID NO:2.

sub 161. (New) The isolated protein of claim 160 that is 95% or more identical to an amino acid sequence consisting of amino acid residues 134-285 of SEQ ID NO:2.

sub 162. (New) The protein of claim 160 wherein the protein modulates leukocyte proliferation.

163. (New) The protein of claim 162 wherein the leukocyte is a lymphocyte.

164. (New) The protein of claim 160 wherein the protein stimulates leukocyte proliferation.

165. (New) The protein of claim 164 wherein the leukocyte is a lymphocyte.

166. (New) The protein of claim 160 wherein the protein modulates leukocyte differentiation.

167. (New) The protein of claim 166 wherein the leukocyte is a lymphocyte.

168. (New) The protein of claim 160 wherein the protein stimulates leukocyte differentiation.

169. (New) The protein of claim 168 wherein the leukocyte is a lymphocyte.

98 170. (New) The protein of claim 160 wherein the protein is fused to a heterologous amino acid sequence.

99 171. (New) The protein of claim 170 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

100 172. (New) The protein of claim 160 wherein said protein is labeled.

101 173. (New) The protein of claim 172 wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

sub D23 7

174. (New) The protein of claim 160 wherein the protein is cytotoxic to Neutrokin- α receptor bearing cells.

103 175. (New) The protein of claim 160 bound to a solid support.

104 176. (New) A composition comprising the protein of claim 160 and a carrier.

105 177. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim 160 by a cell; and
- (b) recovering the protein.

sub B7

178. (New) An isolated protein that is 90% or more identical to an amino acid sequence comprising amino acid residues 134-285 of SEQ ID NO:2, wherein said protein specifically binds an antibody that specifically binds the protein of SEQ ID NO:2.

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107 179. (New) The isolated protein of claim 178 that is 95% or more identical to an amino acid sequence comprising amino acid residues 134-285 of SEQ ID NO:2.

180. (New) The protein of claim 178 wherein the protein modulates leukocyte proliferation.

sub D25

181. (New) The protein of claim 180 wherein the leukocyte is a lymphocyte.

182. (New) The protein of claim 178 wherein the protein stimulates leukocyte proliferation.

183. (New) The protein of claim 182 wherein the leukocyte is a lymphocyte.

184. (New) The protein of claim 178 wherein the protein modulates leukocyte differentiation.

185. (New) The protein of claim 184 wherein the leukocyte is a lymphocyte.

Sub D247

186. (New) The protein of claim 178 wherein the protein stimulates leukocyte differentiation.

187. (New) The protein of claim 186 wherein the leukocyte is a lymphocyte.

110 188. (New) The protein of claim 178 wherein the protein also comprises a heterologous amino acid sequence.

110 189. (New) The protein of claim 188 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

112 190. (New) The protein of claim 178 wherein said protein is labeled.

113 191. (New) The protein of claim 190 wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

192. (New) The protein of claim 178 wherein the protein is cytotoxic to Neutrokinin- α receptor bearing cells.

115 193. (New) The protein of claim 178 bound to a solid support.

116 194. (New) A composition comprising the protein of claim 178 and a carrier.

117 195. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim 178 by a cell; and
- (b) recovering the protein.

Part B8

196. (New) An isolated protein comprising a fragment of the polypeptide of SEQ ID NO:2, wherein said fragment modulates leukocyte proliferation or differentiation.

197. (New) The protein of claim 196 wherein the protein modulates leukocyte proliferation.

198. (New) The protein of claim 197 wherein the leukocyte is a lymphocyte.

199. (New) The protein of claim 196 wherein the protein stimulates leukocyte proliferation.

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200. (New) The protein of claim 199 wherein the leukocyte is a lymphocyte.

201. (New) The protein of claim 196 wherein the protein modulates leukocyte differentiation.

Ay

202. (New) The protein of claim 201 wherein the leukocyte is a lymphocyte.

203. (New) The protein of claim 196 wherein the protein stimulates leukocyte differentiation.

204. (New) The protein of claim 203 wherein the leukocyte is a lymphocyte.

119 205. (New) The protein of claim 196 wherein the protein also comprises a heterologous amino acid sequence.

120 206. (New) The protein of claim 205 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

121 207. (New) The protein of claim 196 wherein said protein is labeled.

sub B9 122 208. (New) The protein of claim 207 wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

sub D297 209. (New) The protein of claim 196 wherein the protein is cytotoxic to Neutrokinin- α receptor bearing cells.

a 18 124 210. (New) The protein of claim 196 bound to a solid support.

sub B9 125 211. (New) A composition comprising the protein of claim 196 and a carrier.

sub B9 126 212. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim 196 by a cell; and
- (b) recovering the protein.

sub B9 213. (New) An isolated protein comprising an amino acid sequence of at least 9 contiguous amino acid residues of SEQ ID NO:2 wherein said protein specifically binds an antibody that specifically binds the polypeptide of SEQ ID NO:2.

214. (New) The protein of claim 213 which comprises an amino acid sequence of at least 30 contiguous amino acid residues of SEQ ID NO:2.

sub B9 215. (New) The protein of claim 214 which comprises an amino acid sequence of at least 50 contiguous amino acid residues of SEQ ID NO:2.

216. (New) The protein of claim 213 wherein the protein modulates leukocyte proliferation.

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217. (New) The protein of claim 216 wherein the leukocyte is a lymphocyte.

218. (New) The protein of claim 213 wherein the protein stimulates leukocyte proliferation.

219. (New) The protein of claim 218 wherein the leukocyte is a lymphocyte.

220. (New) The protein of claim 213 wherein the protein modulates leukocyte differentiation.

221. (New) The protein of claim 220 wherein the leukocyte is a lymphocyte.

222. (New) The protein of claim 213 wherein the protein stimulates leukocyte differentiation.

223. (New) The protein of claim 222 wherein the leukocyte is a lymphocyte.

224. (New) The protein of claim 213 wherein the protein also comprises a heterologous amino acid sequence.

225. (New) The protein of claim 224 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

131 226. (New) The protein of claim 213 wherein said protein is labeled.

132 227. (New) The protein of claim 226 wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

Sub P32 7

228. (New) The protein of claim 213 wherein the protein is cytotoxic to Neutrokin- α receptor bearing cells.

134 229. (New) The protein of claim 213 ¹²⁷ bound to a solid support.

135 230. (New) A composition comprising the protein of claim 213 ¹²⁷ and a carrier.

136 231. (New) A protein produced by a method comprising:
(a) expressing the protein of claim 213 ¹²⁷ by a cell; and
(b) recovering the protein.

Sub B1

232. (New) An isolated protein which comprises an amino acid sequence selected from the group consisting of:

(a) the amino acid sequence of amino acid residues 115 to 147 of SEQ ID NO:2;

(b) the amino acid sequence of amino acid residues 150 to 163 of SEQ ID NO:2;

(c) the amino acid sequence of amino acid residues 171 to 194 of SEQ ID NO:2;

(d) the amino acid sequence of amino acid residues 223 to 247 of SEQ ID NO:2; and

(e) the amino acid sequence of amino acid residues 271 to 278 of SEQ ID NO:2.

wherein said protein specifically binds to an antibody that specifically binds the polypeptide of SEQ ID NO:2.

233. (New) The protein of claim 232 which comprises amino acid sequence (a).

234. (New) The protein of claim 232 which comprises amino acid sequence (b).

235. (New) The protein of claim 232 which comprises amino acid sequence (c).

Su b II (cont'd) (d.)

236. (New) The protein of claim 235 which also comprises amino acid sequence

237. (New) The protein of claim 232 which comprises amino acid sequence (d).

ent B 1/2 238. (New) The protein of claim 232 which comprises amino acid sequence (e).

239. (New) The protein of claim 232 wherein the protein also comprises a heterologous amino acid sequence.

ent B 1/3 240. (New) The protein of claim 239 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

A 1/8 241. (New) The protein of claim 232 wherein said protein is labeled.

242. (New) The protein of claim 241 wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

243. (New) The protein of claim 232 wherein the protein is cytotoxic to Neutrokinin- α receptor bearing cells.

244. (New) The protein of claim 232 bound to a solid support.

245. (New) A composition comprising the protein of claim 232 and a carrier.

246. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim 232 by a cell; and
- (b) recovering the protein.

sub B14

247. (New) An isolated protein comprising an amino acid sequence selected from the group consisting of:

(a) the amino acid sequence of an amino-terminal deletion protein mutant of the full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768, wherein said amino-terminal deletion protein mutant excludes up to 190 amino acid residues from the amino terminus of said full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768;

(b) the amino acid sequence of a carboxy-terminal deletion protein mutant of the full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768, wherein said carboxy-terminal deletion protein mutant excludes up to 11 amino acid residues from the carboxy terminus of said full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768; and

(c) the amino acid sequence of an amino- and carboxy-terminal deletion protein mutant of the full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768, wherein said amino- and carboxy-terminal deletion protein mutant excludes up to 190 amino acid residues from the amino terminus and up to 11 amino acid residues from the carboxy terminus of said full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768;

wherein said protein specifically binds an antibody that specifically binds the polypeptide encoded by the cDNA clone contained in ATCC Deposit Number 97768.

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138 248. (New) The protein of claim 247 which comprises amino acid sequence (a).¹³⁷

139 249. (New) The protein of claim 247 which comprises amino acid sequence (b).¹³⁷

140 250. (New) The protein of claim 247 which comprises amino acid sequence (c).¹³⁷

141 251. (New) The protein of claim 248 which excludes 133 amino acid residues from the amino terminus of the full length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768.¹³⁸

252. (New) The protein of claim 247 wherein the protein modulates leukocyte proliferation.^D

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253. (New) The protein of claim 252 wherein the leukocyte is a lymphocyte.

254. (New) The protein of claim 247 wherein the protein stimulates leukocyte proliferation.

255. (New) The protein of claim 254 wherein the leukocyte is a lymphocyte.

256. (New) The protein of claim 247 wherein the protein modulates leukocyte differentiation.

257. (New) The protein of claim 256 wherein the leukocyte is a lymphocyte.

258. (New) The protein of claim 247 wherein the protein stimulates leukocyte differentiation.

259. (New) The protein of claim 258 wherein the leukocyte is a lymphocyte.

142 260. (New) The protein of claim 247 wherein the protein also comprises a heterologous amino acid sequence.

143 261. (New) The protein of claim 260 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

144 262. (New) The protein of claim 247 wherein said protein is labeled.

145 263. (New) The protein of claim 262 wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{mTc}}$.

Sy D347

264. (New) The protein of claim 247 wherein the protein is cytotoxic to Neutrokinin- α receptor bearing cells.

147 265. (New) The protein of claim 247 ¹³⁷ bound to a solid support.

148 266. (New) A composition comprising the protein of claim 247 ¹³⁷ and a carrier.

A 18

149 267. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim 247 ¹³⁷ by a cell; and
- (b) recovering the protein.

But B15

268. (New) An isolated protein comprising a first amino acid sequence that is 95% or more identical to a second amino acid sequence selected from the group consisting of:

(a) the amino acid sequence of an amino-terminal deletion protein mutant of the full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768, wherein said amino-terminal deletion protein mutant excludes up to 190 amino acid residues from the amino terminus of said full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768;

(b) the amino acid sequence of a carboxy-terminal deletion protein mutant of the full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768, wherein said carboxy-terminal deletion protein mutant excludes up to 11 amino acid residues from the carboxy terminus of said full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768; and

(c) the amino acid sequence of an amino- and carboxy-terminal deletion protein mutant of the full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768, wherein said amino- and carboxy-terminal deletion protein mutant excludes up to 190 amino acid residues from the amino terminus and up to 11 amino acid residues from the carboxy terminus of said full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768;

wherein said protein specifically binds an antibody that specifically binds the polypeptide encoded by the cDNA clone contained in ATCC Deposit Number 97768.

Sub B16
151 269. (New) The protein of claim 268 which comprises amino acid sequence (a).

152 270. (New) The protein of claim 268 which comprises amino acid sequence (b).

153 271. (New) The protein of claim 268 which comprises amino acid sequence (c).

154 272. (New) The protein of claim 269 which excludes 190 amino acid residues from the amino terminus of the full length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768.

Sub B16
273. (New) The protein of claim 269 which excludes 133 amino acid residues from the amino terminus of the full length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768.

a 18
274. (New) The protein of claim 268 wherein the protein modulates leukocyte proliferation.

Sub D347
275. (New) The protein of claim 273 wherein the leukocyte is a lymphocyte.

276. (New) The protein of claim 268 wherein the protein stimulates leukocyte proliferation.

277. (New) The protein of claim 276 wherein the leukocyte is a lymphocyte.

278. (New) The protein of claim 268 wherein the protein modulates leukocyte differentiation.

279. (New) The protein of claim 278 wherein the leukocyte is a lymphocyte.

Sub D377
280. (New) The protein of claim 268 wherein the protein stimulates leukocyte differentiation.

281. (New) The protein of claim 280 wherein the leukocyte is a lymphocyte.

158 282. (New) The protein of claim 268 wherein the protein also comprises a heterologous amino acid sequence.

159 283. (New) The protein of claim 282 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

160 284. (New) The protein of claim 268 wherein said protein is labeled.

161 285. (New) The protein of claim 284 wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

A
18

286 286. (New) The protein of claim 268 wherein the protein is cytotoxic to Neutrokinin- α receptor bearing cells.

163 287. (New) The protein of claim 268 bound to a solid support.

164 288. (New) A composition comprising the protein of claim 268 and a carrier.

165 289. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim 268 by a cell; and
- (b) recovering the protein.

Rev B17

290. (New) An isolated protein comprising a first amino acid sequence that is 95% or more identical to a second amino acid sequence consisting of the amino acid sequence of an amino-terminal deletion protein mutant of the full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768, wherein said amino-terminal deletion protein mutant excludes up to 133 amino acid residues from the amino terminus of said full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768, and wherein said isolated protein specifically binds an antibody that specifically binds the protein of SEQ ID NO:2.

291. (New) The protein of claim 290 wherein the protein modulates leukocyte proliferation.

D

292. (New) The protein of claim 291 wherein the leukocyte is a lymphocyte.

A18

Sub D407

293. (New) The protein of claim 290 wherein the protein stimulates leukocyte proliferation.

294. (New) The protein of claim 293 wherein the leukocyte is a lymphocyte.

D

295. (New) The protein of claim 290 wherein the protein modulates leukocyte differentiation.

296. (New) The protein of claim 295 wherein the leukocyte is a lymphocyte.

Sub D4117

297. (New) The protein of claim 290 wherein the protein stimulates leukocyte differentiation.

298. (New) The protein of claim 297 wherein the leukocyte is a lymphocyte.

D

169 299. (New) The protein of claim 290 wherein the protein also comprises a heterologous amino acid sequence.

¹⁶⁹
170 300. (New) The protein of claim 299 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

¹⁶⁶
171 301. (New) The protein of claim 290 wherein said protein is labeled.

¹⁷¹
172 302. (New) The protein of claim 301 wherein said label is a radiolabel selected from the group consisting of:

- (a) ¹³¹I;
- (b) ¹²⁵I;
- (c) ¹²¹I;
- (d) ¹¹²In; and
- (e) ^{99m}Tc.

A *Sub D 427*
303. (New) The protein of claim 290 wherein the protein is cytotoxic to Neutrokinin- α receptor bearing cells.

¹⁶⁸
174 304. (New) The protein of claim 290 bound to a solid support.

¹⁶⁶
175 305. (New) A composition comprising the protein of claim 290 and a carrier.

¹⁶⁶
176 306. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim 290 by a cell; and
- (b) recovering the protein.

Dub-B8 307. (New) An isolated protein consisting of a first amino acid sequence that is 95% or more identical to a second amino acid sequence consisting of the amino acid sequence of an amino-terminal deletion protein mutant of the full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768, wherein said amino-terminal deletion protein mutant excludes up to 133 amino acid residues from the amino terminus of said full-length protein encoded by the cDNA clone contained in ATCC Deposit Number 97768, and wherein said isolated protein specifically binds an antibody that specifically binds the protein of SEQ ID NO:2.

308. (New) The protein of claim 307 wherein the protein modulates leukocyte proliferation.

309. (New) The protein of claim 308 wherein the leukocyte is a lymphocyte.

Subj D44
310. (New) The protein of claim 307 wherein the protein stimulates leukocyte proliferation.

311. (New) The protein of claim 310 wherein the leukocyte is a lymphocyte.

312. (New) The protein of claim 307 wherein the protein modulates leukocyte differentiation.

*A
78*

313. (New) The protein of claim 312 wherein the leukocyte is a lymphocyte.

Subj D45
314. (New) The protein of claim 307 wherein the protein stimulates leukocyte differentiation.

315. (New) The protein of claim 314 wherein the leukocyte is a lymphocyte.

180 316. (New) The protein of claim 307 fused to a heterologous amino acid sequence.

180 317. (New) The protein of claim 316 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

182 318. (New) The protein of claim 307 wherein said protein is labeled.

Sub D4P 183 349. (New) The protein of claim 318 wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

Sub D4P 320. (New) The protein of claim 307 wherein the protein is cytotoxic to Neutrokinin- α receptor bearing cells.

A 185 321. (New) The protein of claim 307 bound to a solid support.

186 322. (New) A composition comprising the protein of claim 307 and a carrier.

187 323. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim 307 by a cell; and
- (b) recovering the protein.

Sub B19 324. (New) An isolated protein comprising a fragment of the polypeptide encoded by the cDNA clone contained in ATCC Deposit Number 97768, wherein said fragment modulates leukocyte proliferation or differentiation.

325. (New) The protein of claim 324 wherein the protein modulates leukocyte proliferation.

326. (New) The protein of claim 325 wherein the leukocyte is a lymphocyte.

327. (New) The protein of claim 324 wherein the protein stimulates leukocyte proliferation.

328. (New) The protein of claim 327 wherein the leukocyte is a lymphocyte.

329. (New) The protein of claim 324 wherein the protein modulates leukocyte differentiation.

330. (New) The protein of claim 329 wherein the leukocyte is a lymphocyte.

331. (New) The protein of claim 324 wherein the protein stimulates leukocyte differentiation.

332. (New) The protein of claim 331 wherein the leukocyte is a lymphocyte.

¹⁸⁹ 333. (New) The protein of claim 324 wherein the protein also comprises a heterologous amino acid sequence.

¹⁹⁰ 334. (New) The protein of claim 333 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

¹⁹¹ 335. (New) The protein of claim 324 wherein said protein is labeled.

¹⁹² 336. (New) The protein of claim 335 wherein said label is a radiolabel selected from the group consisting of:

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

sub D48 337. (New) The protein of claim 324 wherein the protein is cytotoxic to Neutrokinin- α receptor bearing cells.

¹⁸⁸ 338. (New) The protein of claim 324 bound to a solid support.

¹⁸⁸ 339. (New) A composition comprising the protein of claim 324 and a carrier.

196 340. (New) A protein produced by a method comprising:

(a) expressing the protein of claim 324 by a cell; and
(b) recovering the protein.

but B20 341. (New) An isolated protein comprising an amino acid sequence of at least 9 contiguous amino acid residues of the polypeptide encoded by the cDNA clone contained in ATCC Deposit Number 97768 wherein said protein specifically binds an antibody that specifically binds the polypeptide encoded by the cDNA clone contained in ATCC Deposit Number 97768.

342. (New) The protein of claim 341 which comprises an amino acid sequence of at least 30 contiguous amino acid residues of the polypeptide encoded by the cDNA clone contained in ATCC Deposit Number 97768.

A₇₈ 343. (New) The protein of claim 342 which comprises an amino acid sequence of at least 50 contiguous amino acid residues of the polypeptide encoded by the cDNA clone contained in ATCC Deposit Number 97768.

sub D507 344. (New) The protein of claim 341 wherein the protein modulates leukocyte proliferation.

345. (New) The protein of claim 344 wherein the leukocyte is a lymphocyte.

346. (New) The protein of claim 341 wherein the protein stimulates leukocyte proliferation.

347. (New) The protein of claim 346 wherein the leukocyte is a lymphocyte.

348. (New) The protein of claim 341 wherein the protein modulates leukocyte differentiation.

349. (New) The protein of claim 348 wherein the leukocyte is a lymphocyte.

350. (New) The protein of claim 341 wherein the protein stimulates leukocyte differentiation.

D

351. (New) The protein of claim 350 wherein the leukocyte is a lymphocyte.

197

199 352. (New) The protein of claim 341 wherein the protein also comprises a heterologous amino acid sequence.

199

200 353. (New) The protein of claim 352 wherein the heterologous amino acid sequence is the amino acid sequence of an immunoglobulin Fc domain.

197

201 354. (New) The protein of claim 341 wherein said protein is labeled.

201

202 355. (New) The protein of claim 354 wherein said label is a radiolabel selected from the group consisting of:

Q
18

- (a) ^{131}I ;
- (b) ^{125}I ;
- (c) ^{121}I ;
- (d) ^{112}In ; and
- (e) $^{99\text{m}}\text{Tc}$.

sub D51 7
356. (New) The protein of claim 341 wherein the protein is cytotoxic to Neutrokinin- α receptor bearing cells

197

204 357. (New) The protein of claim 341 bound to a solid support.

205 358. (New) A composition comprising the protein of claim 341 and a carrier.

206 359. (New) A protein produced by a method comprising:

- (a) expressing the protein of claim 341 by a cell; and
- (b) recovering the protein.